

Coordination Compounds

Isomerism

[SEE SOLUTION](#) [ATTEMPT AS QUIZ](#)

Q1. The number of stereoisomers possible for complex $[\text{CoCl}_2(\text{triethylenetetramine})]\text{Br}$ is

[NET Dec 2014]

- (a) 1
- (b) 2
- (c) 3
- (d) 4

Q2. The complexes $[\text{Co}(\text{H}_2\text{O})_4\text{Cl}_2]\text{NO}_2$ and $[\text{Co}(\text{H}_2\text{O})_4\text{Cl}(\text{NO}_2)]\text{Cl}$

- (a) linkage isomers
- (b) positional isomers
- (c) ionization isomers
- (d) optical isomers

Q3. NiBr_2 reacts with EtPh_2P at -78°C in CS_2 to give a red compound 'A', which upon standing at room temperature turns green to give compound, 'B' of the same formula. The measured magnetic moments of 'A' and 'B' are 0.0 and 3.2 BM, respectively. The geometries of 'A' and 'B' are

[NET June 2014]

- (a) Square planer and tetrahedral
- (b) Tetrahedral and square planer
- (c) Square planer and octahedral
- (d) Tetrahedral and octahedral

Q4. The reaction of $[\text{PtCl}_4]^{2-}$ with two equivalents of NH_3 produces

[NET June 2013]

- (a) $\text{cis-}[\text{Pt}(\text{NH}_3)_2\text{Cl}_2]$
- (b) $\text{trans-}[\text{Pt}(\text{NH}_3)_2\text{Cl}_2]$
- (c) both $\text{cis-}[\text{Pt}(\text{NH}_3)_2\text{Cl}_2]$ and $\text{trans-}[\text{Pt}(\text{NH}_3)_2\text{Cl}_2]$
- (d) $\text{cis-}[\text{Pt}(\text{NH}_3)_2\text{Cl}_2]^{2-}$

Q5. The number of possible isomers of $[\text{Ru}(\text{PPh}_3)_2(\text{acac})_2]$ (acac = acetylacetonate) is:

- (a) 2
- (b) 3
- (c) 4
- (d) 5

Q6. Green coloured $\text{Ni}(\text{PPh}_2\text{Et})_2\text{Br}_2$, has a magnetic moment of 3.20 BM. The geometry and the number of isomers possible for the complex respectively, are

[NET Dec 2011]

- (a) square Planar, one
- (b) tetrahedral, one
- (c) square planar, two
- (d) tetrahedral, two

Q7. The number of possible isomers for the square planar mononuclear complex $[(\text{NH}_3)\text{M}(\text{CN})_3]$ of a metal M is:

[GATE 2011]

- (a) 2
- (b) 4
- (c) 3
- (d) 6

chemcontent.com

Q8. The number of possible isomers for $[\text{Ru}(\text{bpy})_2\text{Cl}_2]$ is (bpy = 2,2'-bipyridine)

[NET June 2011]

(a) 2

(b) 3

(c) 4

(d) 5

Q9. The complex that exists as a pair of enantiomers is:

(a) $\text{trans-}[\text{Co}(\text{H}_2\text{NCH}_2\text{CH}_2\text{NH}_2)_2\text{Cl}_2]^+$

(b) $\text{cis-}[\text{Co}(\text{NH}_3)_4\text{Cl}_2]$

(c) $[\text{Pt}(\text{PPh}_3)(\text{Cl})(\text{Br})(\text{CH}_3)]^-$

(d) $[\text{Co}(\text{H}_2\text{NCH}_2\text{CH}_2\text{NH}_2)_3]^{3+}$

Q10. The ligand that exhibits linkage isomerism in its transition metal complexes

(a) $[\text{SO}_3]^{2-}$

(b) $[\text{SO}_4]^{2-}$

(c) $[\text{NO}_3]^-$

(d) $[\text{ClO}_4]^-$





[Topic wise MCQs](#)

[Chapter wise MCQs](#)

What our Website provides:

- ☒ Free Video Lectures
- ☒ Chapterwise Notes
- ☒ Chapterwise MCQs with solutions
- ☐ Chemistry Articles
- ☒ CSIR NET, GATE Papers with Solutions
- ☒ Visit Our Site Now

Socialize with [ChemContent](#)

-  Telegram Channel <https://t.me/chemcontents>
-  Instagram Account https://instagram.com/chemcontent.com_website
-  Facebook Page <https://www.facebook.com/chemcontent>
-  Website <https://chemcontent.com>